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title (thesis defence: June 2013): *attraverso il fiume. segni idraulici e territori abitati del basso corso del fiume Ter* 

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## abstract:

From the point of view of architecture and urbanism this work focuses on the relationship between the city and the river that passes through it or limits it. Human settlements along the watercourse are observed according to the relationship they establish with the natural and geographical element of the river, with the bands of the embankment and the territory's hydrographic system. In consolidated urban contexts the river is a "green groove" that breaks urbanity, it is a pause that allows two sides of the city to look at each other, it is often the main medium through which we build the image of the city and at the same time it is a public space. The watercourse is the continuous corridor, the result of what happens upstream, as a stream it refers to a broad reality that binds the city to its geographical context inviting reflection on territorial and urban scales becoming the medium of the transcalar project.

In the discussion on contemporary urban landscape, the reflection focuses today on the city that territorializes itself, the traditional distinctions between urban and non-urban areas, between built space and open space are blurring. As a term of conciliation between the natural dynamics and the historical construction of places that is product of human intervention, the river turns out to be an essential tool for analysis and urban project. Both in the compact city as in the less consolidated contexts of dispersed urbanization and urban sprawl or in areas still predominantly agricultural, the river is the matrix of the original settlement and the land use, it is the mobility and energy infrastructure support. The aim of this study is to suggest an approach to the project of the city along the river course and set up the basis for a reflection "through the river", the goal is to provide tools for the process of urban river rehabilitation. The proximity to the riverbed is no longer today a necessary condition to settle, so it is always less important the relationship that the city sets with the territory's hydrographic network. Rivers and canals are losing or significantly reducing their role in the new economic and social reality. Moreover the hydro-geological instability and the effects of climate change call for an increased attention on water, especially to manage and prevent floods and scarcity. Having concluded almost a lifecycle of water use, this work defends the active role of the river in the city's project assuming that the space bound to the hydrographic network can still be a resource. The aim is to provide design criteria that exceed the administrative limits that the river often materializes while indicate readings for the recovery and revalorization of the city of river edge and therefore counteract the waste of soil and the indistinct urban growth following the guidelines that water and human construction have engraved on the soil.

The territory of the Ter River in Catalonia is the case study of this research. The Ter is a river heavily exploited and in some parts highly urbanized, together with the Llobregat River it is a symbol of Catalan industrialization and since the sixties for half of its course it is a river with regulated flow. The analysis of the Ter's entire lower course stimulates the observation of a landscape that changes according to the different river valley sections which opens down to the sea; geomorphology allows identifying three different traits of the river. The study of three canals, one for each river's trait, enables more detailed analysis of the river's segments. The three canals represent the river part from which they derived and, at the same time, three stories of human construction of place, three "hydraulic signs" that the research considers as "measures" of the crossed territories and proposes as "transformation assets" to construct their habitability.